View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Universiti Teknologi Malaysia Institutional Repository

ABSTRACT:

In multihop wireless sensor network (WSN) users or nodes are constantly entering and leaving the network. Classical techniques for network management and control are not conceived to efficiently face such challenges. New mechanisms are required, to work in a self-organized manner. The techniques found in nature promises WSN, to self-adapt the environmental changes and also self-protect itself from the malicious stuff. This paper introduces a biological inspired secure autonomous routing protocol (BIOSARP). The self-optimized routing protocol is enhanced with artificial Immune System (AIS) based autonomous security mechanism. It enhances WSN in securing itself from the abnormalities and most common WSN routing attacks. NS2 based simulation analysis and results of BIOSARP are presented. The comparison of proposed intelligent protocol with SAID and SRTLD security mechanisms for WSN is further exhibited, in terms of processing time and energy consumption.